

**AMENDMENTS TO THE CLAIMS:**

This listing of the claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (currently amended). An oligonucleotide synthesizer comprising a reaction chamber and a lid enclosure comprising a ventilation system, wherein in an open position, said lid enclosure provides a substantially ventilated workspace, wherein in said open position said ventilated workspace is of sufficient size to permit an operator's hands to enter said reaction chamber.

2 – 4 (canceled).

5. (original). A system comprising a plurality of oligonucleotide synthesizers of Claim 1.

6. (original). The system of Claim 5, wherein said system comprises 100 or more of said synthesizers.

7 – 19 (canceled).

20. (currently amended). A system comprising;

- a) a ventilation tube,
- b) a lid enclosure on a nucleic acid synthesizer comprising; a) a top cover with a ventilation slot, and b) a top enclosure comprising a top plate with a ventilation opening, wherein said top enclosure is attached to said top cover to form a primarily substantially enclosed space over said top cover, and
- c) a vacuum source connected to said ventilation system.

21. (canceled).

22. (original). The system of claim 20, wherein said vacuum source comprises a centralized vacuum system.

23. (canceled).

24. (original). The oligonucleotide synthesizer of Claim 1, wherein said reaction chamber comprises a cartridge configured to hold a plurality of nucleic acid synthesis columns.

25. (new). A method for decreasing the quantity of vapor emissions released into the surrounding atmosphere created during the use of an oligonucleotide synthesizer, said method comprising;

- a) providing an oligonucleotide synthesizer of Claim 1
- b) connecting said ventilation system to a source of negative pressure or vacuum
- c) operating said source of negative pressure or vacuum.

26. (new). A method according to Claim 25, said method comprising connecting a plurality of oligonucleotide synthesizers via said ventilation system to a centralized source of negative pressure or vacuum.

27. (new). A method according to Claim 25, said method comprising the additional step;

- d) wherein said operating said source of negative pressure or vacuum is sufficient to decrease the quantity of vapor emission created during the use of an oligonucleotide synthesizer.

28. (new). A method according to Claim 25, said method comprising said operating said source of negative pressure or vacuum constantly during the use of said oligonucleotide synthesizer, and during loading and unloading of reagents and products from said oligonucleotide synthesizer.

29. (new). A method according to Claim 25, said method comprising said operating said source of negative pressure or vacuum only when said lid enclosure comprising a ventilation system is in said open position.

30. (new). A method according to Claim 29, wherein said operating of said source of negative pressure or vacuum is triggered to occur automatically whenever said lid enclosure is placed in said open position.